PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE MODIFICATION OF THE EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF ARUNDEL MILLS CIRCLE AND COSTCO IN ANNE ARUNDEL COUNTY. THE WORK IS NECESSITATED BY THE WIDENING OF ARUNDEL MILLS CIRCLE AND INSTALLATION OF ADA RAMPS, ARUNDEL MILLS CIRCLE IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION CURRENTLY OPERATES IN A NEMA SIX-PHASE, FULLY-ACTUATED MODE WITH EXCLUSIVE-PERMISSIVE LEFT TURN PHASES FOR EASTBOUND AND WESTBOUND ARUNDEL MILLS CIRCLE. A NEW EXCLUSIVE-PERMISSIVE LEFT TURN PHASE AND A RIGHT TURN OVERLAP PHASE WILL BE ADDED FOR THE NORTHBOUND SIDE STREET, THE EXISTING PEDESTRIAN PHASES AT THE INTERSECTION WILL REMAIN

CONTROLLER REQUIREMENTS

THE EXISTING EIGHT-PHASE FULLY-ACTUATED CONTROLLER HOUSED IN A BASE MOUNTED CABINET WILL BE USED.

APS NOTES

TO CROSS ARUNDEL MILLS CIRCLE (WEST LEG)

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS ARUNDEL MILLS AT ARUNDEL MILLS WEST, WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE
- TO CROSS ARUNDEL MILLS CIRCLE (SOUTH LEG)
 - A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL BE "WAIT TO CROSS ARUNDEL MILLS AT ARUNDEL MILLS SOUTH, WAIT."
 - B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE

EQUIPMENT LIST "A'

A. EQUIPMENT TO BE FURNISHED BY THE SHA AND INSTALLED BY THE CONTRACTOR

QUANTITY **DESCRIPTION** ITEM NO.

NONE

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR. ALL EQUIPMENT SHALL HAVE CATALOG CUTS SUBMITTED TO THE OFFICE OF TRAFFIC AND SAFETY FOR APPROVAL PRIOR TO INSTALLATION.

QUANTITY	<u>DESCRIPTION</u>
LS	MAINTENANCE OF TRAFFIC

4 CY TEST PIT EXCAVATION 1425 LF 5 IN. YELLOW HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING

965 LF 5 IN, WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING 110 LF 10 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING

540 LF 12 IN. WHITE HEAT APPLIED THERMOPLASTIC PAVEMENT MARKING 200 LF 24 IN. WHITE HEAT APPLIED WHITE THERMOPLASTIC PAVEMENT MARKING

5 EA HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING ARROW

2 EA VIDEO INTERFACE EQUIPMENT 42 EA 12 IN. LED SIGNAL HEAD SECTION

9 EA 8 IN. LED SIGNAL HEAD SECTION 4 EA 16 IN. COUNTDOWN PEDESTRIAN SIGNAL

AUDIBLE /TACTILE PEDESTRIAN PUSHBUTTON AND SIGN

4 EA 8 CY CONCRETE FOUNDATION FOR SIGNAL

2 EA 10 FT, BREAKAWAY PEDESTAL POLE

1 EA 27 FT. MAST ARM POLE & 50 FT. MAST ARM 1 EA 27 FT. MAST ARM POLE & 70 FT. MAST ARM

1 EA 15 FT. LIGHTING ARM WITH 250 WATT HPSV LUMINAIRE CUT, CLEAN, GALVANIZE, AND CAP TRAFFIC SIGNAL STRUCTURE

2 EA 4 EA ELECTRICAL HANDHOLE

35 LF

1 EA ADJUST HANDHOLE TO FINAL GRADE

> 1 IN. DETECTOR SLEEVE GALVANIZED OR FLEXIBLE, LIQUID-TIGHT CONDUI 3 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED

25 LF 3 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - BORED 4 IN SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED 185 LF

85 LF 4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - BORED LS REMOVE AND DISPOSE OF MATERIAL AND EQUIPMENT

5 EA VIDEO DETECTION CAMERA AND CABLE 30 LF WOOD SIGN SUPPORTS 4 IN. X 4 IN.

20 LF WOOD SIGN SUPPORTS 4 IN. X 6 IN. 1210 LF

ELECTRICAL CABLE 2 - CONDUCTOR (NO. 14 A.W.G.) 1100 LF ELECTRICAL CABLE 5 - CONDUCTOR (NO. 14 A.W.G.) ELECTRICAL CABLE 7 - CONDUCTOR (NO. 14 A.W.G.) 1815 LF

240 LF ELECTRICAL CABLE 2 ~ CONDUCTOR (NO. 12 A.W.G.) TRAY CABLE 450 LF STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

4 EA 3/4 IN. X 10 FT. GROUND ROD

5 EA MICRO-LOOP PROBE

2 EA D-3(1) (VAR X 16") DUAL FACE SIGN - MAST ARM MOUNT

W3-3 (36" X 36") SIGN AND W16-14(1) (24" X 24") SIGN AND FLAGS - GROUND MOUNT

1 EA 1 EA R3-8a (48" X 30") SIGN - GROUND MOUNT 1 EA R3-5L (30" X 36") SIGN - MAST ARM MOUNT

2 EA R3-5R (30" X 36") SIGN - MAST ARM MOUNT 1 EA R3-6R (30" X 36") SIGN - MAST ARM MOUNT

160 LF 1 EA

2-WIRE CENTRAL CONTROL UNIT

EQUIPMENT LIST "C"

C. EXISTING EQUIPMENT TO BE REMOVED BY THE CONTRACTOR AND DELIVERED TO THE STATE HIGHWAY ADMINISTRATION, 7491 CONNELLEY DRIVE, HANOVER, MARYLAND 21076, THE CONTRACTOR SHALL NOTIFY THE SHA AT (410) 787-7652 AT LEAST THREE DAYS IN ADVANCE OF DELIVERY. DESCRIPTION ITEM NO. QUANTITY

ALL SIGNAL EQUIPMENT TO BE REMOVED AND NOT RETURNED TO THE SHA SHALL

BECOME THE PROPERTY OF THE CONTRACTOR.

CONTACT PERSONS FOR DISTRICT 5 ARE AS FOLLOWS:

MRS. KIM TRAN ASSISTANT DISTRICT ENGINEER - TRAFFIC MR. JOHN MAYS ASSISTANT DISTRICT ENGINEER - MAINTENANCE (410) 841-1002

MR, MIKE HUBER UTILITY ENGINEER (410) 841-1039

(410) 841-1003

CONTACTS FOR OFFICE OF TRAFFIC AND SAFETY

MR, RICHARD DAFF, SR. CHIEF, TRAFFIC OPERATIONS (410) 787-7630

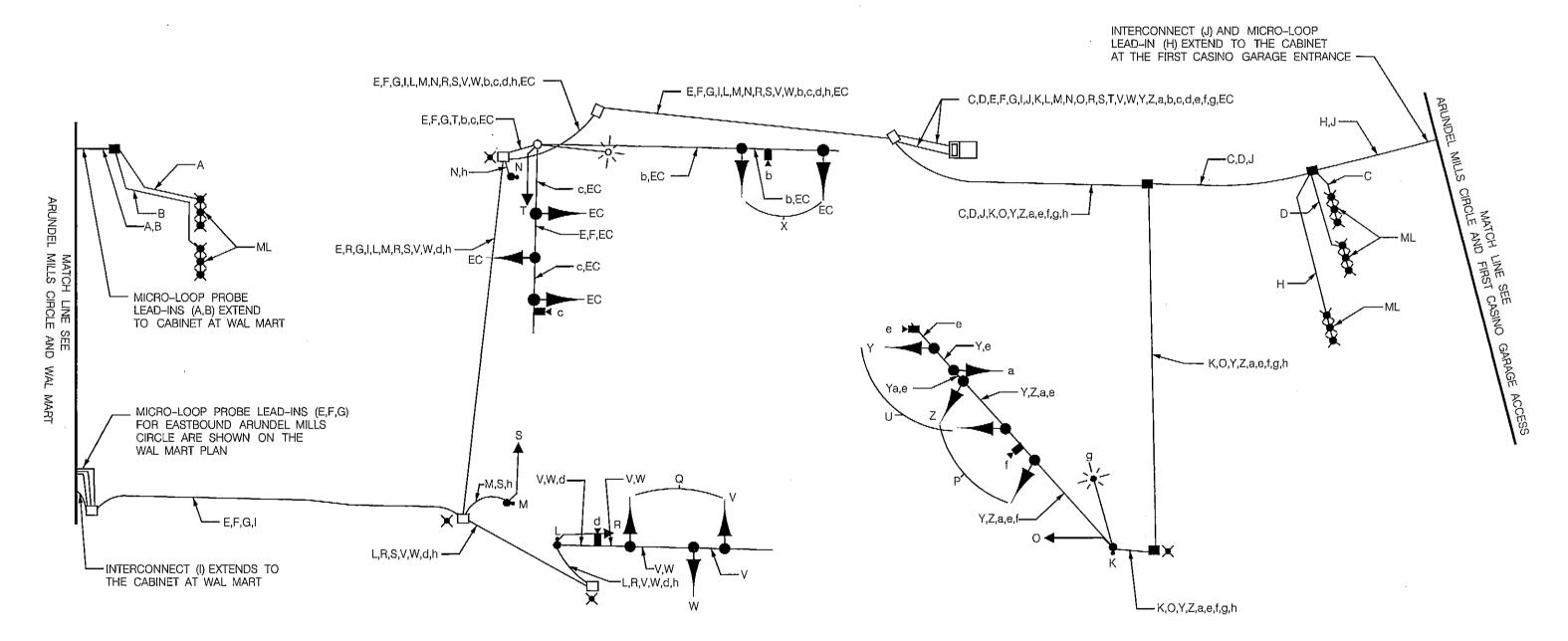
MR. ROBERT SNYDER ASSISTANT DIVISION CHIEF. TRAFFIC OPERATIONS (410) 787~7631

MR. ED RODENHIZER CHIEF - SIGNAL OPERATIONS SECTION (410) 787-7652

MR, EUGENE BAILEY TEAM LEADER SIGN OPERATIONS (410) 787--7676

MR. MIKE STOCKER SUPPLY OFFICE SIGNAL SHOP WAREHOUSE (410) 787-7668

WIRING DIAGRAM



PHASE 1 & 5

1 & 5 CHANGE

PHASE 1 & 6

1 & 6 CHANGE

PHASE 2 & 5

2 & 5 CHANGE

PHASE 2 & 6

2 & 6 CHANGE

PHASE 3 & 8

PHASE 4 & 8

PHASE 4 & 8 ALT.

4 & 8 ALT, CHANGE

OPERATION

3 CHANGE

PED CLEAR

WIRING KEY

MICRO-LOOP PROBE LEAD-IN 12-PAIR VOICE GRADE INTERCONNECT

2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.) 5-CONDUCTOR ELECTRICAL CABLE O-U,X

(NO. 14 A.W.G.) 7-CONDUCTOR ELECTRICAL CABLE (NO, 14 A.W.G.) VIDEO DETECTION CABLE

2-CONDUCTOR ELECTRICAL CABLE (NO. 12 A.W.G.) TRAY CABLE

STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)

MICRO-LOOP PROBE EXISTING CABLE GROUND ROD

TRAFFIC CONCEPTS, INC.

325 Gambrills Road Suite B Gambrills, MD 21054 (410) 923-7101 FAX: (410) 923-6473

GENERAL INFORMATION PLAN DATE ____6_23_11 NONE

PHASE CHART

R | R | G | G | G | G

R R G G G G G

PHASE 1 & 5 MAY CHANGE TO PHASE 1 & 6, 2 & 5, OR 2 & 6

G G R R R R R R -R≯ -R≯ WK WK DW DW

R R G G G G G G G DW DW WK WK

FLY | FLY | FLR | DARK | DARK

B B B B B B -R→ B→ DW DW DW

I—R→ I—R→ I DW I DW I DW

-G≯ -G≯ DW DW DW DW

I-G→ I-G→ DW DW DW DW

|--G≯|-G≯| DW | DW |FL⁄DW|FL⁄DW|

CONTRACT NO. BW996M82 SCALE __ ANNE ARUNDEL J.K. SCHMID DESIGNED BY COUNTY 02550100.00 DRAWN BY J.K. SCHMID LOGMILE T. ZAYDEL CHECKED BY T.I.M.S. NO. F.A.P. NO. N/A TOD NO. DRAWING NO. TS-3963 A GI SHEET NO. 2 OF 2

STATE OF MARYLAND

DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION

ARUNDEL MILLS CIRCLE AND COSTCO

HANOVER, MARYLAND

OFFICE OF TRAFFIC & SAFETY

TRAFFIC ENGINEERING DESIGN DIVISION

FILE PATH: M:\2400\2475\Signals\Arundel Mills Cr@Costco\5-12-11.dgn DATE: Wednesday, August 03, 2011 AT 09:08 AM

EMAIL: TRAFFIC@TRAFFIC-CONCEPTS.COM

M:2475/SIGNALS/ARUNDELMILLSCR@COSTCO